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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,396	03/26/2004	Kiyoji Hane	Q80702	7550

7590 12/06/2004

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EXAMINER	
PHAM, HAI CHI	
ART UNIT	**PAPER NUMBER**
2861	

DATE MAILED: 12/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/809,396	HANE, KIYOJI	
	Examiner	Art Unit	
	Hai C Pham	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1,11,12,14 and 15 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,11,12,14 and 15 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 28 June 2004 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 10/357,494.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892).
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 3/26/04 & 6/28/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/357,494, filed on 02/04/03.

Drawings

2. The drawings with proposed correction of minor informalities were received on 06/28/04. These drawings are accepted.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 11 and 14-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11:

- The following limitation "a serial data output unit that provides a pulse of a pulse width adjusted by the pulse width adjusting unit or the initial serial data pulse as a serial data pulse" recited at line 20 is not clearly understood since the initial serial data pulse was defined as having "a resolution lower than a resolution needed by

the serial video data" (claim 11, line 7) and would not be acceptable as serial data pulse. The above limitation would be interpreted as --a serial data output unit that provides ~~a pulse of~~ the initial serial data pulse having a pulse width adjusted by the pulse width adjusting unit ~~or the initial serial data pulse~~ as a serial data pulse-- until the Applicant says otherwise.

- "a clock signal" at line 24 appears to be ambiguous in that it is not known whether said clock signal is different from the predetermined clock signal recited earlier at line 6.

Claim 14:

- "a clock signal" at line 13 appears to be ambiguous in that it is not known whether said clock signal is different from the predetermined clock signal recited earlier at line 3.

Claim 15:

- The following limitation "providing a pulse of a pulse width adjusted by pulse width adjustment or the initial serial data pulse as a serial data pulse" recited at line 16 is not clearly understood since the initial serial data pulse was defined as having "a resolution lower than a resolution needed by the serial video data" (claim 15, lines 5-6) and would not be acceptable as serial data pulse. The above limitation would be interpreted as --providing ~~a pulse of~~ the initial serial data pulse having a pulse width adjusted by pulse width adjustment ~~or the initial serial data pulse~~ as a serial data pulse-- until the Applicant says otherwise.

- "a clock signal" at line 24 appears to be ambiguous in that it is not known whether said clock signal is different from the predetermined clock signal recited earlier at line 6.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 11-12 are 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyagi et al. (U.S. 6,335,696) in view of Howe, Jr. et al. (U.S. 4,165,490).

Aoyagi et al. discloses a parallel-to-serial conversion circuit comprising a first parallel-to-serial converting unit (first half of the 10-bit parallel-serial converter 8 or 5-bit parallel-serial converters 8a-8b) capable of being triggered for operation by a leading edge of a predetermined clock signal (positive edge of the clock signal having a half frequency of that of the clock CLKIN) to convert first parallel data (data [00:04] and data [05:09]) into an initial serial data pulse, a second parallel-to-serial converting unit (second half of the 10-bit parallel-serial converter 8 or 5-bit parallel-serial converters 8c-8d) capable of being triggered for operation by the trailing edge of the clock signal (negative edge of the clock signal having a half frequency of that of the clock CLKIN) if

the first parallel-to-serial converting unit is triggered by the leading edge of the clock signal to convert second parallel data (data [10:14] and data [15:19]) into a serial data pulse. With regard to claim 11, Aoyagi et al. further teaches an n-stage clock an n-stage clock signal delaying unit (tap signal generator 10) including a plurality of signal delay devices placed in a predetermined clock signal line to obtain delayed pulses at a plurality of delayed times by delaying a leading and a trailing edge of a clock signal (TAP[0]-TAP[9]), an n-stage delayed pulse gate that passes a delayed pulse of time specified by a timing signal specifying the time of the delayed pulse (selection signal generator 11), a delayed clock selecting unit (selection signal generator 11) for selecting a delayed pulse according to a delayed clock selection signal specifying one of the n-stages of delayed pulse gates.

Although Aoyagi et al. also discloses a clock signal delaying unit (tap signal generator 10) including a plurality of signal delay devices placed in a predetermined clock signal line (CLKIN) to obtain delayed pulses at a plurality of delayed times by delaying a leading and a trailing edge of the clock signal and fails to teach the pulse width adjusting unit for adjusting width of the initial serial data pulse between at least one of edges of the initial serial data pulse and an edge of the pulse width adjusting serial data pulse, and a serial data output unit that provides a serial data pulse formed by adjusting the pulse width of the serial data pulse between at least one of the edges of a serial data pulse provided by the serial data output unit and the edge of the delayed pulse selected by the delay clock selecting unit.

Aoyagi et al. fails to teach the pulse width adjusting unit for adjusting width of the initial serial data pulse between at least one of edges of the initial serial data pulse and an edge of the pulse width adjusting serial data pulse, and a serial data output unit that provides a serial data pulse of a pulse width adjusted by the pulse width adjusting unit.

Howe, Jr. et al. teaches a clock pulse generator with selective pulse delay and pulse width control, wherein a coarse adjustment unit (15) controls the timing through selected delay (pulse delay selector 20) and the pulse width (using the pulse width selector 22) of the output serial data of the first shift registers (18 and 21) and a fine adjustment unit (55) controls through selected delay (pulse delay selector 60) and the pulse width (using the pulse width selector 64) of the output serial data of the second shift registers (58 and 62) so as to provide a high resolution serial data pulse (fine adjust output, Fig. 8) whose pulse width (FW) is adjusted between one of the edges of the coarse adjust output and the edge of the delayed pulse selected from the fine adjust delay line taps.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the pulse shaping unit as taught by Howe, Jr. et al. in the parallel-serial conversion unit of Aoyagi et al. The motivation for doing so would have been to provide the output serial data pulse with a selective pulse delay and pulse width control as suggested by Howe, Jr. et al. at col. 10, lines 59-61.

The method claims 12 and 14-15 are deemed to be clearly anticipated by functions of the above structures.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hai Chi Pham

HAI PHAM
PRIMARY EXAMINER

December 1st, 2004